IN THE CLAIMS:

1. (Currently Amended) A semiconductor inspection method for simultaneously detecting (1) stuck-at failures and (2) short-circuited adjacent lines in a logic circuit of a semiconductor apparatus, the method comprising:

extracting data representing input ~~adjacent~~ lines of a ~~logical~~ logic circuit of a semiconductor apparatus represented by layout data and identifying combinations of adjacent input lines of said input lines;~~, for avoiding a short circuit occurring between such lines;~~

~~simultaneously detecting any stuck-at failures in the logical circuit and obtaining input logical values from the logical circuit such that extracted data representing one of the adjacent lines has a logical value "1" while extracted data representing the other of the adjacent lines has a logical value "0";~~

selecting one combination of adjacent input lines from said extracted combinations and setting each of said selected adjacent input lines ~~of the logical circuit~~ to a first logical ~~values~~ value of "0" ~~and~~ or "1" and setting said input lines ~~of~~

~~the logical circuit~~ other than the <u>selected</u> adjacent <u>input</u> lines

to a <u>second</u> logical value of <u>"0" or</u> "1"<u>,</u> ~~or "0",~~ so that ~~when~~ an

expected logical output value is output by ~~the logical~~ <u>such</u>

<u>logic</u> circuit when <u>a stuck-at failure and a</u> ~~no~~ short circuit

~~exists~~ between the adjacent lines <u>do not exist</u> and an unexpected

output logical value is output when <u>at least one of a stuck-at</u>

<u>failure and a</u> short circuit ~~exists~~ between the adjacent lines

<u>does exist</u>; and

monitoring an output of ~~a logical~~ <u>such logic</u> circuit that

receives the input logical values, and comparing the monitored

output with an output logical value that is expected when the

input logical values are input to ~~the logical~~ <u>such logic</u>

circuit.

2.   (Currently Amended) A semiconductor inspection method

<u>for simultaneously detecting (1) stuck-at failures and (2)</u>

<u>short-circuited adjacent lines in a logic circuit of a</u>

<u>semiconductor apparatus, the method</u> comprising:

extracting data representing ~~adjacent~~ <u>input</u> lines of a

~~logical~~ <u>logic</u> circuit of a semiconductor apparatus represented

by layout data and identifying combinations of adjacent input

lines of said input lines; a distance between said lines being

equal to or less than a threshold;

~~simultaneously detecting any stuck-at failures in the~~

~~logical circuit and obtaining input logical values from the~~

~~logical circuit such that extracted data representing one of the~~

~~adjacent lines has a logical value "1" while extracted data~~

~~representing the other pf the adjacent lines has a logical value~~

~~"0";~~

selecting one combination of adjacent input lines from said

extracted combinations and setting each of said selected

adjacent input lines ~~of the logical circuit~~ to a first logical

~~values~~ value of "0" or~~and~~ "1" and setting said input lines ~~of~~

~~the logical circuit~~ other than the selected adjacent input lines

to a second logical value of "0" or "1", ~~or "0",~~ so that ~~when~~

an expected logical output value is output by ~~the logical~~ such

logic circuit when a stuck-at failure and a ~~no~~ short circuit

~~exists~~ between the adjacent lines do not exist and an unexpected

output logical value is output when at least one of a stuck-at

failure and a short circuit ~~exists~~ between the adjacent lines does exist; and

monitoring an output of a ~~logical~~ logic circuit that receives the input logical values, and comparing the monitored output with an output logical value that is expected when the input logical values are input to ~~the logical~~ such logic circuit.

3.   (Currently Amended) A computer-readable recording medium comprising a program for causing a computer ~~the~~ to execute:

extracting data representing input ~~adjacent~~ lines of a ~~logical~~ logic circuit of a semiconductor apparatus represented by layout data and identifying combinations of adjacent input lines of said input lines;~~, said adjacent lines having a possibility of a short circuit occurring between such lines;~~

~~simultaneously detecting any stuck-at failures in the logical circuit and obtaining input logical values from the logical circuit such that extracted data representing one of the adjacent lines has a logical value "1" while extracted data~~

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~~representing the other of the adjacent lines has a logical value~~

~~"0";~~

selecting one combination of adjacent input lines from said extracted combinations and setting each of said selected adjacent input lines ~~of the logical circuit~~ to a first logical value~~values~~ of "0" ~~and~~ or "1" and setting said input lines ~~of the logical circuit~~ other than the selected adjacent input lines to a second logical value of "0" or "1", ~~or "0",~~ so that ~~when~~ an expected logical output value is output by ~~the logical~~such logic circuit when a stuck-at failure and a ~~no~~ short circuit ~~exists~~between the adjacent lines do not exist and an unexpected output logical value is output when at least one of a stuck-at failure and a short circuit ~~exists~~between the adjacent lines does exist; and

monitoring an output of a ~~logical~~ logic circuit that receives the input logical values, and comparing the monitored output with an output logical value that is expected when the input logical values are input to ~~the logical~~ such logic circuit.

4. (Currently Amended) A computer-readable recording medium comprising a recorded program for causing a computer to execute:

extracting data representing input ~~adjacent~~ lines of a ~~logical~~ logic circuit of a semiconductor apparatus represented by layout data and identifying combinations of adjacent input lines of said input lines ~~; a distance between said lines being not greater than a threshold;~~

~~simultaneously detecting any stuck-at failures in the logical circuit and obtaining input logical values from the logical circuit such that extracted data representing one of the adjacent lines has a logical value "1" while extracted data representing the other of the adjacent lines has a logical value "0";~~

selecting one combination of adjacent input lines from said extracted combinations and setting each of said selected adjacent input lines ~~of the logical circuit~~ to a first logical value ~~values~~ of "0" or ~~and~~ "1" and setting said input lines ~~of the logical circuit~~ other than the selected adjacent input lines to a second logical value of "0" or "1", ~~"0",~~ so that ~~when~~ an

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expected logical output value is output by ~~the logical~~ such logic circuit when a stuck-at failure and a ~~no~~ short circuit ~~exists~~ between the adjacent lines do not exist and an unexpected output logical value is output when at least one of a stuck-at failure and a short circuit ~~exists~~ between the adjacent lines does exist; and

monitoring an output of a ~~logical~~ logic circuit that receives the input logical values, and comparing the monitored output with an output logical value that is expected when the input logical values are input to ~~the logical~~ such logic circuit.